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ABSTRACT

Prompted by the issue of whether participation in forensics programs has some tangible beneficial effects on the participants, this paper examines how such participation might influence the participant's processing of information. The paper first presents a rationale for examining the forensics participant as an information processor, citing studies in critical thinking and the need to justify the forensics program. The paper next analyzes the concept of cognitive complexity in information processing and discusses its discriminative and integrative components. In conclusion, the paper poses four questions for research based on data regarding cognitive complexity: (1) Does forensic training and participation increase the level of cognitive complexity of the participant? (2) Does the cognitive complexity level of the participant vary in relation to the success level of the participant? (3) To what extent does the nature of the cognitive complexity style of the participant rely upon that of his or her coach? and (4) Does the type of forensic activity in which a student participates have an effect on any changes in complexity level in that participant? (FI)

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THE FORENSIC PARTICIPANT
AS AN INFORMATION PROCESSING MACHINE

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The purpose of this paper is to examine some possibilities of the forensic participant as information processor. The paper will first look at a rationale for looking at the participant as information processor. Secondly, the paper will offer a brief look at a specific kind of information processing--cognitive complexity. Finally, the paper will suggest some areas of investigation that might be undertaken in examining the forensic participant as information processor.

Rationale For Suggesting Investigation

Many of us who are involved in the teaching of forensic activities have suspected for some time that the training we were giving to our students was providing them some benefits of a long-term nature, other than some hardware for a few that would adorn a dusty shelf in some obscure place on the campus. I recall one year as a high school teacher examining the scores of my forensics students on the Iowa Test of Basic Skills, both before they had started in our program as freshman and sophomores and when they were in their junior year. I had suspected that I would find some major changes in either their mathematics scores (this I considered to be some index of logical reasoning skills) or their English scores (language facility ability, I assumed). I was disappointed in my search. I found no significant changes in either math or English scores. I did find they had made significant gains in the area of library skills. Perhaps one might expect this astounding result of high school students who were recently introduced into debate, extemporaneous speaking, and original oratory.

As we find ourselves moving into an era of tight budgets and diminishing administrative support for many extracurricular programs on both the high school and college levels, we are forced to return to a question that has been posed many times in the past, but one on which very little has been done to seek any resolution--"Does the participation in forensics programs have some tangibly beneficial effect on the participants?" By this, I do not mean to suggest the examination of participation and attitude changes that may occur in the debater or orator toward the subject matter being used by the participant, for we do have some information on these (see for example Ewbank, 1951; Phillips, 1961).

What I am really suggesting needs to be answered is the question of forensics participation and how that participation may have an effect on how the participant deals not just with a single issue, but with the general utilization of data. It is the type of question that was first reported nearly four decades ago in the investigation of critical thinking and some related forensic activities.

Howell (1943) examined the critical thinking abilities of high school debaters in comparison with that of nondebaters. Attempts were made in the study to match the two groups on the basis of sex, scholarship, and their year in school. He found that debaters scored higher initially on the test and did, in fact, slightly outgain the members of the control group in increases of critical thinking scores. Further, those students identified as the "better" debaters outgained other debaters in critical thinking scores.

Brembeck (1949) made a similar investigation of the effects of a college or university course in argumentation on critical thinking skills. Scores were compared at eleven institutions for students in both argumentation classes and control group classes. In ten of the eleven institutions, students in the classes of argumentation outscored the members of the control group. An interesting note in the study was the fact that students who had had some debating prior to taking the argumentation course did significantly better in the pretest of critical thinking.

Jackson (1962) reported similar results for college debaters. In a comparison of 100 debaters and 147 non-debaters from nine colleges, he found that the debaters outgained the nondebaters in critical thinking skills over a debating season. He, too, found that debaters with previous experience outscored those with no experience in the initial test.

All these past studies on critical thinking seem to suggest that something is happening in how persons who are learning forensics skills "see the world" somewhat differently than persons without those experiences. Little has been done, however, to examine how forensic participation may influence the participants manner of dealing with data following these early studies.

As late as the Sedalia Conference, the profession had not moved forward to investigate forensics' impact on its participants. There were several suggestions for research into this area presented at the conference as the result of Project Delphi by Reinard and Crawford (1974, p. 75).

> Forensics needs hard evidence regarding the transfer value of forensic participation to 'real' oral advocacy practices.
> We need studies on how a season of competition affects debaters.
> A comprehensive statement of relevant questions for research or theory should be published.

If the participant in forensics is doing something different in looking at the world, the forensic community should be engaged in that examination of the nature of what the something is and to what extent does the training and participation in forensics influence this something. I believe the profession needs to make a comprehensive examination into how the forensics participant processes information. If the early studies have any direction for us for the future, they seem to suggest that information is being handled differently by the participant who has been taught certain forensic skills. At the very least, the studies ought to suggest we need to investigate differences in capabilities for information processing that forensics participants might acquire.

Cognitive Complexity as a Concept

How one processes information has been looked at in various aspects. It can be argued that the individual processes information in different manners depending on how cognitive complex the individual is. Further, as one examines the concept of cognitive complexity, one realizes that it consists of two separate components--a discriminating component and an integrating component.

Bieri (1955, 1961) emphasizes the discriminative component. This component is based on the act of discriminating data into a number of

dimensions and having a number of gradations within that dimension. The more dimensions and the more gradations a person has, the more cognitive complex the individual is.

Schroder, Driver, and Streufert (1967) have dealt with the integrative component. This component deals with the rules one uses for relating, combining, acting upon, etc. different discriminated data.

What immediately follows is an explanation of the manner in which the integrative component might function according to Schroder, et. al. and is a summary of the information found in Human Information Processing, pages 14-23.

While there may be many gradations of discrimination level in cognitive complexity, for discussion purposes it is practical to speak of four--low integration, moderately low integration, moderately high integration, and high integration.

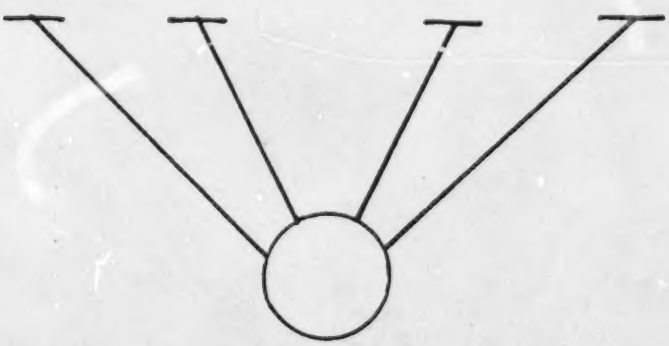

Figure 1 Low Integration Index

In low integration system (figure 1) data is interpreted in a simple, fixed manner. There are few degrees of freedom existing in which to make judgments. Things exist in a yes-no environment and conflict is minimal.

Alternatives are not a consideration in this type of cognitive functioning.

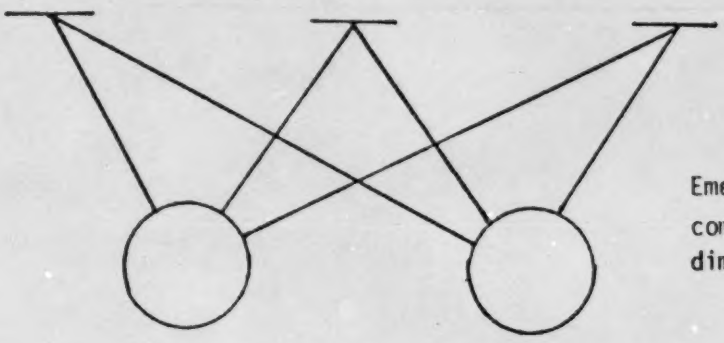

Figure 2 Moderately Low Integration Index

In moderately low integration (figure 2) there is an opportunity for alternatives. Choices here may result in ambivalence rather than uncertainty that may be found at higher levels. There is some movement away from the certainty of the low level integration. Rules here are based more on conditionality, not differentiation; and, once a rule has been accepted, the person appears to exhibit rigidity.

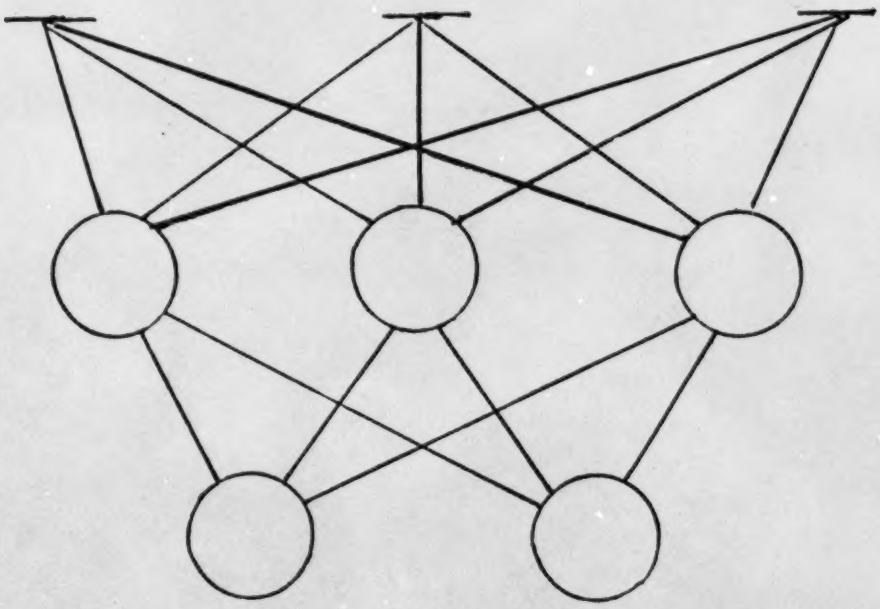

Figure 3 Moderately High Integration Index

When one is at the moderately high level of integration (figure 3) one is able to arrive at more complex rules based on the alternate options. There is a shift from the absoluteness of lower levels to an uncertainty based on more options available. Abstractness becomes a part of the system at this level. One may be able to see a situation from more than one point of view; there is less compartmentalizing. The process is somewhat internal and approaches self-reflection.

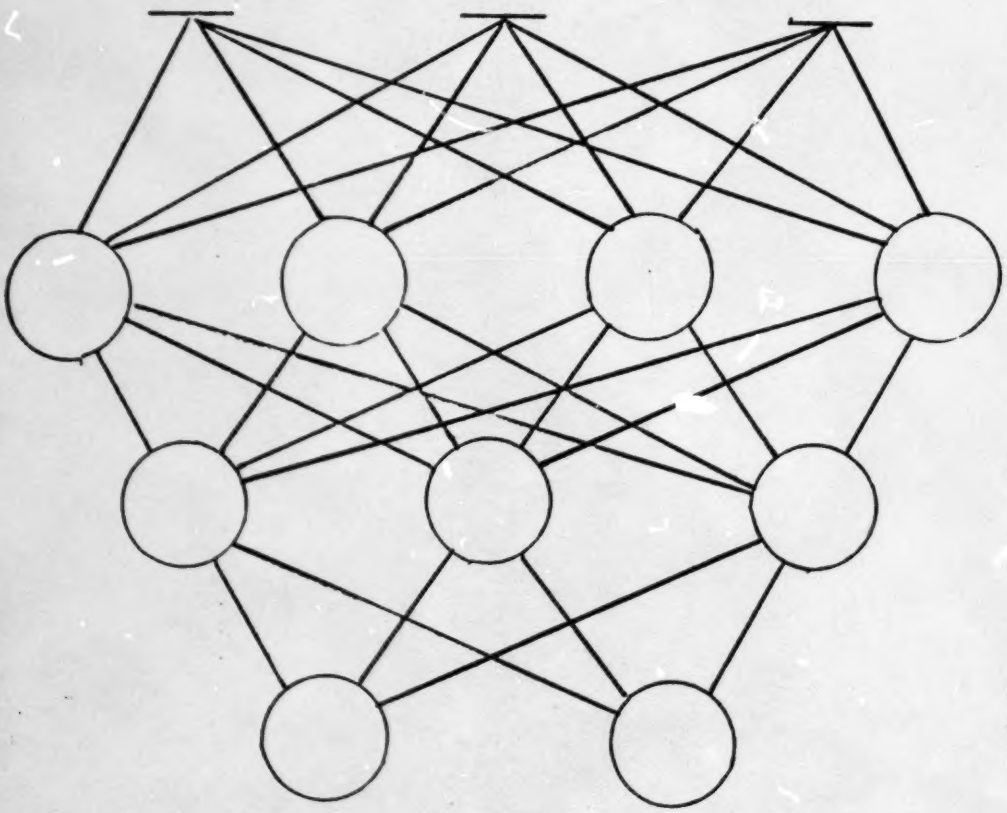

Figure 4 High Integration Index

At the high integration level (figure 4) more complex potentials exist for the use of generating rules or looking at alternative ways in which to

view data. Further, there is at this level the ability to formulate complex relationships from the rules. There is an increased capacity to handle diverse data. The individual can make more discriminate differentiation at this level. The system is abstract oriented. Decisions reached are always tentative and subject to some revision.

Suggestions For Areas Of Research

If Schroder's categories for looking at how the individual processes information is correct, then there is a strong case to be built to suggest it is desirable for persons to develop a higher integration level of processing information. It could be reasoned that the more "rational" the process employed in the handling of data, the more effectively one might be expected to function in our society.

Perhaps the early studies dealing with critical thinking were to some degree tapping some dimension of how one functions in information processing, or, at the least, they were somehow positively correlated with some aspect of cognitive complexity. Those tests of critical thinking looked at discrimination of arguments, logical reasoning, evaluation of arguments, and inferences. While these may be primarily discrimination tests, they may well have been tapping portions of information processing as conceived by Schroder.

It seems to me that the forensics professionals need to examine how the training and participation in forensics impact on changes in information processing. Specifically, I want to suggest there are four questions that are worth of research by the scholar in this area.

(1) Does forensic training and participation increase the level of cognitive complexity of the participant?

Williams and Callahan (1977) offered an inservice program for teachers to help them develop skills for more cognitive complex functioning. They found that the inservice program did significantly increase the level of cognitive complexity for the participants.

Most of us in coaching forensic activities stress the development of analytic skills in our students, be it in audience, topic, etc. Insofar as the process of developing skills in categorizing and using categories may facilitate higher levels of cognitive complexity, we might suspect that there are some changes occurring in our students in how they are processing data. The previous research conducted in critical thinking might strongly suggest we would find a positive answer to this question.

One admonition might be placed on research in this area, however. It might be difficult to find college and university students enrolled in forensics courses that have not had some experience in the activities prior to taking the course. This might suggest that the high school student is a much more desirable subject than what might be available in the college or university.

(2) Does the cognitive complexity level of the participant vary in relation to the "success" level of the participant?

If forensic training does have an impact on cognitive complexity, then we certainly want to determine if that alteration in complexity level has any relationship to how successfully the participant is at communication.

One might argue that a gauge of the participant's success is the extent to which that participant tends to be a winner at contests. Another way of approaching this question might be to ask "Is there a significant difference in the cognitive complexity level of the participant who is winning as compared to the participant who is not and does an increase in cognitive complexity result in a corresponding increase in winning?"

Clark and Delia (1977) examined children between the second and ninth grades to determine their effectiveness in constructing persuasive messages. They found the more cognitive complex subjects were able to construct more effective persuase messages than were the less cognitive complex subjects.

A similar result was found in a study by Hale (1980). She used a split-half division for high and low cognitive complexity among college students and used amount of time to communicate to determine part of the effectiveness. High complex subjects were able to communicate more effectively than were low complex subjects.

As part of a study dealing with audience attitude toward various persuasive strategies, Barrie (1978) examined what kind of strategies the speaker might employ in developing arguments for various kinds of audiences--agree, unknown, and opposed. She found that the number of arguments a speaker might employ increased as a function of the speaker's cognitive complexity. An additional result of the study was the finding that for the hostile and unknown audiences an increase occurred in use of rebuttal arguments and complexity increased.

Some evidence, then, seems to suggest that as a speaker's cognitive complexity increases, the speaker is utilizing some strategies that might make that speaker a more effective persuader. One could assume that this persuasive ability might also be reflected in ability to win at contests, and we might expect to find a positive answer to this second question for research.

(3) To what extent does the nature of the cognitive complexity style of the forensics participant rely upon the cognitive complexity style of teaching utilized by the participant's coach?

One aspect of our profession that has not received much attention is the extent that certain coaching styles and strategies employed impact on the participants. One of the recommendations growing out of the Sedalia Conference was to do more research into this area.

Williams (1970) examined the effect of various levels of cognitive information processing used by instructors to determine the influence various styles might have on students in those instructors' courses. He found that as the instructor employed more complex cognitive strategies in instructional patterns the cognitive complexity of the students tended to increase.

We are well aware of the influence modeling has on student behavior. The evidence suggests that this may well carry over into the behavior of information processing. We may well find that levels of high cognitive complexity in a coach tend to produce correspondingly high levels of cognitive complexity in the participants. One might also expect a postive answer to this question.

(4) Does the type of forensic activity a student participates in have an effect on any changes in complexity level in that participant?

One might suspect that, if there is an effect on complexity levels because of forensic training and participation in certain types of activity might be expected to show more changes than would participation in other activities. For example, since some of the studies have shown the participation in debate to impact on critical thinking, one might initially believe the researcher would find more changes toward a higher level of complexity in the debate learner than one would find in one who is learning an activity such as oral interpretation. On the other hand, if there is some relationship between persuasive effectiveness and cognitive complexity, and if complexity level can be enhanced through training, it may be the winning participant in oral interpretation has developed as complex an information processing style as the student who becomes the successful debater. Based on data currently available, I cannot speculate as to the appropriate answer to this fourth question.

Summary

This paper has looked at some rationale for examining the forensics participant as an information processor. Several reasons were given as justification, including some past studies in critical thinking and the need to explain possible beneficial effects our professional activities have on those students with whom we work.

Secondly, the concept of cognitive complexity in information processing was examined. It was suggested that two components of cognitive

complexity exist--discriminative and integrative. A further explanation of the integrative component was presented.

Finally, four questions for research were suggested based on currently known data regarding cognitive complexity. (1) Does forensic training and participation increase the level of cognitive complexity of the participant? (2) Does the cognitive complexity level of the participant vary in relation to the "success" level of the participant? (3) To what extent does the nature of the cognitive complexity style of the forensics participant rely upon the cognitive complexity style of teaching utilized by the participant's coach? (4) Does the type of forensic activity a student participates in have an effect on any changes in complexity level in that participant? The answers to the first three questions may turn out to be positive. It is probably not prudent to speculate on the probable outcome of the fourth question.

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